REMARKS

I. Introduction

Claims 1, 3, 7, and 8 have been amended. Claims 2, 4, 5, 10, 11, 13-18, and 20-23 are also in the case. All other claims have either been cancelled or withdrawn. Entry of the amendments set forth above and reconsideration of this application are respectfully requested in light of the following further remarks.

II. Showing Pursuant to 37 C.F.R. § 1.116(b)(3)

Applicants have been earnestly striving to secure allowance of this application. In response to the immediately preceding Office action, applicants extensively amended almost every claim still in the case. In addition, applicants dealt with many other objections to the application (claim informalities, objections to the specification, and double-patenting rejections). All of these points were successfully addressed and have not been raised again in the current (November 19, 2007) Office action. Only prior art rejections remain, and these are now formulated by the Examiner differently than they were previously.

The amendments that are now proposed render the claims immediately allowable. These amendments deal in a clear and straightforward manner with the remaining prior art rejections. These amendments were not made earlier because the prior art rejections were not previously formulated in the way that they are now. These amendments are necessary to deal with the current formulation of the prior art rejections.

For all of the foregoing reasons, the amendments proposed herein should be entered and this application should be allowed.

III. The Rejections Based on Prior Art

A. The Rejections Based on Lazarus or Lazarus and Kaster

Claims 1-3, 5, 7, 8, 10, 11, 13-18, 20, 21, and 23 have been rejected under 35 U.S.C. § 102 as anticipated by Lazarus U.S. patent 5,104,399 (hereinafter "Lazarus"), or alternatively under 35 U.S.C. § 103 as obvious from Lazarus in view of Kaster et al. U.S. patent 5,366,462 (hereinafter "Kaster"). These rejections are respectfully traversed.

1. Claims 1-3, 5, and 7

Claim 1 specifies that the hook members (e.g., 436' in applicants' FIG. 36) are "disposed ... at least partly outside the tubular graft conduit beyond the end portion of the tubular graft conduit." This refers to the fact that hooks 436' extend to the left in FIG. 36 beyond where the left-hand end of the graft conduit will be during use of the connector (see, for example, applicants' FIG. 37, which shows tubular graft conduit 530 added, but ending to the right of most of the length of hook members 436'). Claim 1 further specifies that "portions of the hook members that are outside the tubular graft conduit beyond the end portion of the tubular graft conduit [are] resiliently biased to extend ... radially outwardly relative to the artificially formed aperture and inside the tubular body conduit without passing through the side wall of the tubular graft conduit." In the illustrative embodiment shown in FIG. 36, for example, this refers to the fact that when restraining bands 437a-d are broken, hook members 436' spring radially outwardly (e.g., in the manner shown beginning to occur in FIG. 35). Moreover, this happens without hook members 436' passing through the side wall of the tubular graft conduit (like 530 in FIG. 37) because the portions of the hook members that thus extend radially outwardly are beyond the end portion of the tubular graft conduit, as the claim expressly states.

Claim 1 still further states that "the radially outwardly extending length of each of the hook members [is] greater than the cantilevered length of each of the tissue piercing members." This refers to the fact, for example, that when hook members 436' are fully released from restraining bands 437a-d they will extend radially out much farther than tissue-piercing members 436".

Nothing like the structure thus specified by applicants in claim 1 is shown in Lazarus. As far as applicants can determine, all of Lazarus's elements like 70, 72, 116, 120, 136, 140, and 139 extend through graft 12. Moreover, in any of Lazarus's staples, all of these elements have the same radially outwardly extending length. Lazarus does not show any hook members that are beyond the end of graft 12. A fortiori, Lazarus does not show hook members extending radially outwardly without passing through graft 12. Again, as far as applicants can determine, all of Lazarus's outwardly extending members pass through graft 12. For all of these reasons, applicants' claim 1 is not anticipated by Lazarus.

The November 19, 2007 Office action already acknowledges the possibility that claim 1 is not anticipated by Lazarus. Accordingly, the Office action goes on assert that Kaster shows that some hooks can be longer than others, and thus it would have been obvious to combine Lazarus and Kaster to produce the subject matter of applicants' claim 1.

Applicants respectfully disagree with this assertion. First of all, Lazarus and Kaster have two very different objectives in mind. Lazarus is trying to install graft 12 coaxially inside tissue lumen 90, and to do this by catheter-like delivery apparatus at an implant site that is difficult or impossible to reach by any other means. Accordingly, Lazarus uses fingers 70, 72, etc. that do not require direct manipulation to achieve their final shape and disposition in the patient. For example, there is no direct contact with fingers 70, 72, etc., to crimp or otherwise reshape them in the patient.

Kaster, on the other hand, is trying to produce an end-to-side anastomosis at a surgically exposed and therefore highly accessible location in the patient. Accordingly, Kaster uses various tools to directly contact and reshape all of the fingers employed. For example, FIGS. 18 and 19 of Kaster show an anvil component 13 being used to directly contact and crimp fingers 44. Kaster does not show or suggest the use of resilient fingers such as applicants now specify in claim 1.

Note also that Kaster does not show a continuous ring that is annularly enlargeable as specified by applicants in claim 1. Kaster's structure has a very definite split that is clearly visible in FIG. 10. This is again a manifestation of the very different objectives and uses of the Lazarus and Kaster structures.

The foregoing demonstrates that it would not have been obvious to attempt to combine Lazarus and Kaster to produce applicants' invention as defined in claim 1. As has been shown, these two references have altogether different purposes and uses (and therefore different structural features and characteristics) which would not lead someone to combine them. And even if they were somehow combined, they would still be lacking at least some aspects of what is claimed in applicants' claim 1 (e.g., hook members that are outside the graft and that are resiliently biased to extend radially outwardly without passing through the graft). Claim 1 and its dependent claims 2, 3, 5, and 7 are therefore neither anticipated by Lazarus nor obvious from Lazarus and Kaster.

2. Claims 8, 10, 11, 13-18, 20, 21 and 23

Claim 8 specifies a connector having a first portion that is "configured to be disposed outside the lumen of the graft but inside the conduit" to which the graft is to be connected. Claim 8 further specifies that this first portion includes "hook members that are resiliently biased to extend, without passing through the graft, from a first position in which the hook members are substantially parallel to an axis with which the annular structure is substantially coaxial to a second position in which the hook members are radially outward and substantially perpendicular to the axis." Claim 8 still further specifies barbs on a second portion of the connector that "penetrate the tissue of the graft" and that have "length that is less than a radially outwardly extending length of ... the hook members when the hook members extend radially outwardly." Once again, this structure is not anticipated by Lazarus at least because all of Lazarus's fingers 70, 72, etc. go through graft 12.

In addition, claim 8 is not obvious from Lazarus and Kaster because these two references are so different from one another in so many ways (as discussed earlier in these remarks). For example, the fingers of Kaster's staple do not operate by resilient bias. Rather, they require direct manipulation by various forming tools, which cause the fingers to plastically (not resiliently) deform to their final shapes. The fingers of Lazarus (and applicants), on the other hand, do not require and are not subject to such direct manipulation to get them into their final shapes. Rather, this is more a matter of releasing the fingers from restraint, and then (at least in applicants' case) the fingers go to their final shape in response to resilient bias).

But even if Lazarus and Kaster can be combined, that combination still lacks resiliently biased hooks that do not pass through the graft and that have radially outwardly extending length that is greater than the length of the other barbs that do penetrate the graft, all as specified in applicants' claim 8. Claim 8 is therefore not obvious from Lazarus and Kaster. The same is true of claims 10, 11, 13-18, 20, 21, and 23, all of which are dependent from claim 8.

B. The Rejections Based on Kaster

Claims 8, 13-16, 20, 21, and 23 have been rejected under 35 U.S.C. § 103 as obvious from Kaster. These rejections are also respectfully traversed.

Claim 8 specifies that the hook member "are resiliently biased to extend ... from a first position in which the hook members are substantially parallel to an axis with which the annular structure is substantially coaxial to a second position in which the hook members are radially outward and substantially perpendicular to the axis." Kaster does not disclose or suggest such resiliently biased hook members. The only thing Kaster shows is fingers that require direct manipulation by various forming tools to plastically deform those fingers to their final shapes and positions. There is no disclosure or suggestion in Kaster of resiliently biased finger. Claim 8 and its dependent claims 13-16, 20, 21, and 23 are therefore not obvious from Kaster for at least this reason. This was effectively admitted in the November 19, 2007 Office action, which did not reject claim 17 on the basis of Kaster.

C. The Rejections Based on Lazarus and Kim

Claims 4 and 22 have been rejected under 35 U.S.C. § 103 as obvious from Lazarus and Kim U.S.

patent 5,676,670 (hereinafter "Kim"). These rejections are also respectfully traversed. (One sentence in this rejection also mentions Kaster, but taking nitinol from Kim to use in Kaster would be inappropriate because nitinol is known for its super-elasticity, which would make it unsuitable for use in Kaster's plastically deformable connector.)

Claim 4 is dependent from claim 1, and claim 22 is dependent from claim 8. We have shown above that claims 1 and 8 are allowable over Lazarus. Kim adds nothing to Lazarus that is pertinent to the allowability of claims 1 and 8. Accordingly, claims 4 and 22 are allowable over Lazarus and Kim because claims 1 and 8 are allowable over those references.

IV. Other Matters

The Office action requires applicants to specifically point out support for amendments. This is done as follows. The amendments to claim 1 relating to the array of hooks being disposed at least partly outside the tubular graft conduit beyond the end portion of that conduit describes what applicants show toward the left in FIGS. 36 and 37. The amendments to claim 1 relating to resilient bias effectively just move that feature from claim 3 to claim 1. The amendments to claim 1 relating to the hook members not passing through the side wall of the graft describes behavior of hook members 436' like that shown in FIG. 35. The amendments to claim 8 are of the same general kind as are discussed above for claim 1, and these claim 8 amendments have the same kind of support as is identified above with reference to claim 1.

The Office action requests applicants to identify copending applications containing similar subject matter to the present claims. This was done by applicants in reply to an earlier Office action.

V. Conclusion

The foregoing demonstrates that claims 1-5, 7, 8, 10, 11, 13-18, and 20-23 are allowable. All other claims have either been cancelled or withdrawn. Entry of the amendments set forth herein and allowance of this application are accordingly respectfully requested.

Respectfully submitted,

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